

## Risk for adolescent health due to chemical contamination of food and food stock

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### Abstract

© 2018, Advanced Scientific Research. All rights reserved. Based on the data on the volume of food consumption data according to the results of the actual nutrition study among the adolescents at the age of 15-17 they calculated the intake of chemical contaminants with local food products and food raw materials. They determined the main food products for adolescents, where chemical contaminants occur most frequently: fruits and vegetables, meat, grain, fish, drinks and milk. They determined the systems most susceptible to the total nonspecific effects at 95%: circulatory, cardiovascular, central nervous and reproductive systems. By the influence of imported products on functional systems they revealed circulatory system and the cardiovascular system. With combined intake of pollutants by food intake, the total hazard index for non-carcinogenic effect development by domestic products (HI) made 9.36 (95%), for imported products HI made 3.1 (95%).

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### Keywords

Adolescent health, Chemical contaminants, Critical body systems, Non-carcinogenic risk, Regional exposure factors

### References

- [1] Beijing Declaration on Food Safety adopted by the consensus of the International Forum on Food Safety "Food Safety Improvement in the World Community"  
[http://origin.who.int/foodsafety/fs\\_management/Beijing\\_decl\\_ru.pdf](http://origin.who.int/foodsafety/fs_management/Beijing_decl_ru.pdf)
- [2] WHO Global Strategy for Food Safety.-WHO, 2003.-33 p.
- [3] Tetiana Chorna, Dmytro Yanushkevych, Vita Afanasieva Modern Aspects of Safety Assessment of Foodstuff Traektoriâ Nauki Path of Science. 2018. Vol. 4, No 4. pp. 4001-4012
- [4] Ghose Bishwajit, Razib Barmon, Sharmistha Ghosh. Reviewing the status of agricultural production in bangladesh from a food security perspective Russian. Journal of Agricultural and Socio-Economic Sciences, 1(25) pp. 19-27
- [5] Zaitseva N.V., May I.V., Sychik S.I., Fedorenko E.V., Shevchuk L.M. The analysis of the legal and methodological basis of risk-oriented supervision of products circulated at the consumer market: tasks and development prospects in the Eurasian Economic Union. Health risk analysis. 2017. №4. pp. 4-22.
- [6] Ivanov V.P., Vasilieva Oksana Vladimirovna, Polonikov A.V. Scientific-methodological bases of risk assessment for public health at complex ecology-hygienic study of territories. Ecology of a man. 2012. № 11. pp. 11-19.
- [7] The doctrine of food security in Russian Federation (approved by the Decree of RF President (January 30, 2010) No. 120).

- [8] Fundamentals of RF state policy in the field of population healthy nutrition until 2020 (approved by Russian Federation Government Decree No. 1873-r issued on October 25, 2010).
- [9] The decree of RF Government (25.10.2010) No. 1873-r "On the approval of RF state policy foundations in the field of population healthy nutrition during the period until 2020"
- [10] The order of RF Ministry of Health and Social Development (The Ministry of Health and Social Development of Russia) (August 2, 2010) N 593 "On the approval of recommendations on rational norms for the consumption of food products that meet modern requirements for healthy eating." Moscow.
- [11] Fetter V.V. Risk assessment of chemical contamination of food products and food raw materials to public health. Health risk analysis. 2013. № 4. pp. 54-63.
- [12] Methodical recommendations for the estimation of food amount consumed by the method of 24-hour (daily) reproduction of meal/ A.N. Martincik, A.K. Baturin, A.I. Feoktistova, I.V. Svyahovskaya: (26.02.1996) No. C1-19/14-17. M.: RF Ministry of Health, 1996. 24 p.
- [13] Guidelines for public health risk evaluation during the exposition to pollutant chemicals.-Moscow: Federal Center of the State Sanitary and Epidemiological Supervision of the Ministry of Health of Russia, 2004.-143 p. (62)
- [14] Zabashta N.N., Kulpina N.V., Rieger A.N. Nitrates-nitrites are an agroecological aspect of meat raw material obtaining, intended for the development of baby food products on meat basis. The collection of scientific works of the North Caucasian Research Institute of Animal Husbandry. 2015; 4: 70-80.
- [15] Skripnikov Yu.G., Barabanov I.V. The methods of oxymethylfurfural level reduction in carrot puree for the manufacture of baby food. The bulletin of the Michurin State Agrarian University. 2013; (1): 82-3.
- [16] Setko A.G., Kuznetsova E.I., Fateeva T.A., Setko I.M. The features of food product contamination consumed by the children of the industrial city. Population health and habitat. 2011; (9): 21-5. 1
- [17] Istomin A.V., Eliseev Yu.Yu., Eliseeva Yu.V. The conditionality of the risks to health among children by the chemical contamination of food products in the region. ZNiSO. 2014. №2 (251). pp. 1-4.
- [18] Klepikov O.V., Hatuaev R.O., Istomin A.V., Rumyantseva L.A. Regional features of population nutrition and health risks associated with chemical contamination of food products. Hygiene and sanitation. 2016. № 11.
- [19] Pivovarov Yu.P., Milushkina O.Yu., Tikhonova Julia Leonidovna, Aksenova O.I., Kalinovskaya M.V. The pollution of baby food in RF by chemical products. Hygiene and sanitation. 2016. № 8. pp. 707-711
- [20] Unguryanu T.N. Hygienic assessment of food product quality in the city of Novodvinsk. Ecology of a man. 2010. № 12. pp. 10-17.